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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,403	12/16/2005	Andrew Nicholas Dames	15892.13	8060
22913	7590	07/06/2007		
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			EXAMINER LEUNG, QUYEN PHAN	
			ART UNIT 2874	PAPER NUMBER
			MAIL DATE 07/06/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,403	Applicant(s) DAMES, ANDREW NICHOLAS	
	Examiner Quyen P. Leung	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-33 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 18-22, 28 and 30 is/are rejected.
- 7) ☒ Claim(s) 23-27, 29 and 31-33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20070205</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

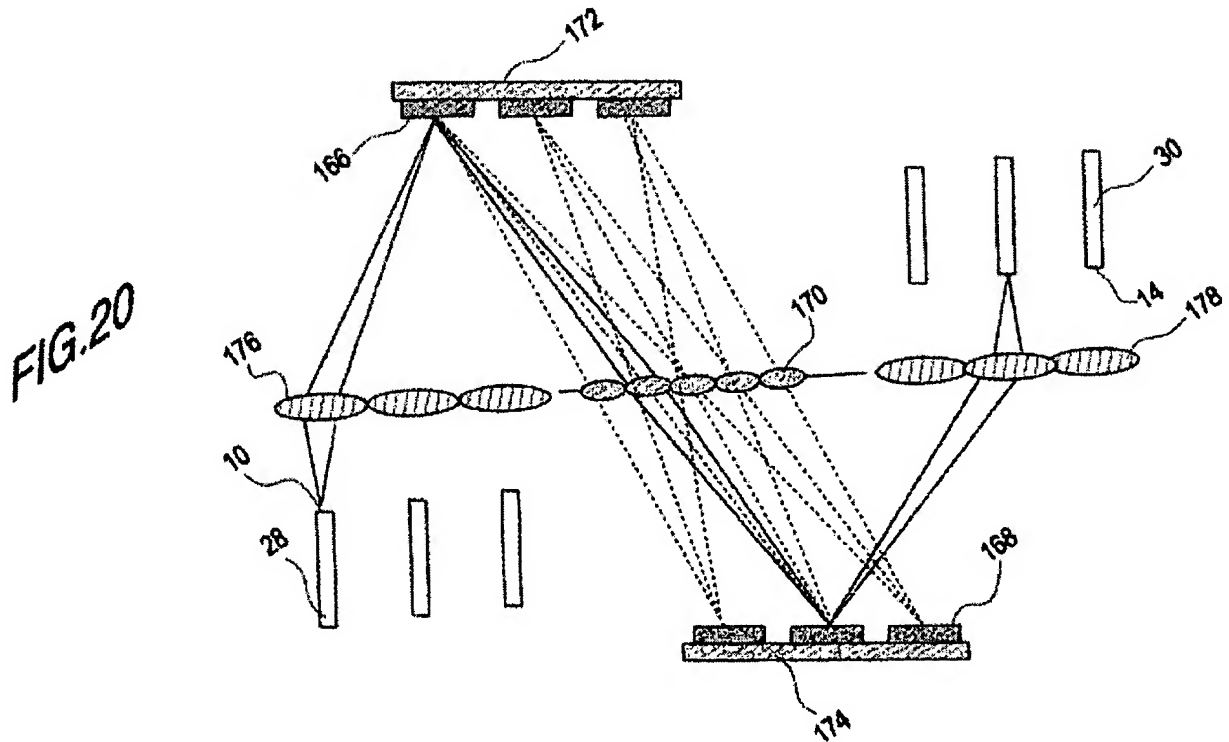
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-22, 28, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Okayama (US 2002/057862 A1). Okayama discloses the claimed invention of a beam steering optical switch. Figure 20 illustrates an optical switch comprising an input array (10) of optical elements (28, 176) and an output array (14) of optical elements (178, 30), a space between the input and output array (10,14), whereby the input array (10) of optical elements is spaced from the output array (14); means (166, 168) for directing radiation beams, a further array of optical elements (170) optically located between the input and output arrays (10,14).

Re the relative claimed pitches, see paragraph [0222] for the pitch of the means to direct radiation beams (166, 168) being twice the pitch of the optical elements (170) of the further array. See Figure 20 which clearly shows and teaches the pitch of the optical elements (170) of the further array being inferior to that of the means to direct radiation beams by $\frac{1}{2}$ times. Figure 20 (and also figure 11) clearly shows the pitch of the optical elements (176, 178) to be comparable to that of the means to direct radiation beams (166,168), and larger than that of the optical elements (170) of the further array by about 2 times. Therefore, Okayama meets the claimed limitation that the optical

elements (170) of the further array is inferior to that of the optical elements (176, 178) of at least one of the input and output arrays (10, 14).



Re claim 19, figure 20 clearly shows the further array of optical elements (170) being located where optical paths cross each other, with the showing of the dotted lines tracing the optical signal from the means for directing radiation beams (166).

Re claim 20, figure 20 clearly shows with the showing of the dotted lines tracing the optical signal from the means for directing radiation beams (166) that the further array of optical elements (170) are located in gaps between where the optical paths cross each other.

Re claim 21-22, figure 20 clearly shows the further array of optical elements (170) located substantially at the centre of the space between the inputs and the

outputs (10, 14). The half pitch has been discussed above, with regards to claim 18. re the further array of optical elements, it is inherent that it allows the achievable optical path length between the input and output arrays to be greater than the optical path length achievable without the further array of elements, because all the claimed structural limitations have been met, as discussed above.

Re claim 28, figure 20 clearly shows the further array of optical elements (170) being a lenslet array.

Re claim 30, note collimators (176) and the array of tilting mirrors (166). See figures 11-12, which illustrate a close-up of the tilting mirror (100a similarly constructed to mirror 166 of figure 20).

Allowable Subject Matter

Claims 23-27, 29, 31-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

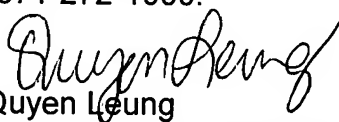
The following is a statement of reasons for the indication of allowable subject matter: Okayama, the closest cited prior art, fails to teach or fairly suggest the combination including the pitch of the further array of optical elements being $1/3$ or $1/4$ of the pitch of the optical elements; the further array of optical elements being a reflective array or striped mirror or a combination of at least any two of the following elements: striped mirror, lenslet and reflective element; or the collimators of the input arrays being adapted to be displaced in a rocking motion within a given pitch.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (571) 272-8188. The examiner can normally be reached on normally M-F, 6:15 am - 2:45 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Quyen Leung
Primary Patent Examiner
Group Art Unit 2874

qpl